PATENT CLAIMS

1. An arrangement for counteracting stress in a portion (17) of an implant (12) provided with an internal socket (2) extending in said portion, via which socket (2) the implant can be tightened by means of a turning tool (turning instrument) (11) which has first lateral surfaces (14) that can cooperate with corresponding second lateral surfaces (15) in the internal socket, characterized by one of both of the following alternatives:

   a) one or more of the first and/or second sides is/are completely or partially arranged with friction-enhancing means (28 and/or 29), and

   b) the implant and the tool are arranged with interacting parts (18a, 18b) which extend inside the implant and beyond the first and second lateral surfaces and are arranged to completely or substantially take up bending moments which act in or on said portion (17) or are directed toward said portion and occur in the event of skewing, or a tendency toward skewing, between the implant and the tool (11).

2. The arrangement as claimed in patent claim 1, characterized in that it counteracts or eliminates stresses which could cause cracking (10) from the internal socket out toward or as far as the outside of said portion and, consequently, could cause forcing-out, breaking-apart or deformation of the material at said portion.

3. The arrangement as claimed in patent claim 1 or 2, characterized in that, in a cross section through the lateral surfaces, these have non-round

geometries (3-8) and, for example, are polygonal.

4. The arrangement as claimed in patent claim 1, 2 or 3, characterized in that the means (28, 29) comprises or consists of a friction-enhancing coating on the first surface or surfaces (14) of the tool.

5. The arrangement as claimed in patent claim 1, 2, 3 or 4, characterized in that the means (28, 29) comprises or consists of a friction-enhancing coating on the second surface or surfaces (25) on the internal socket of the implant.

6. The arrangement as claimed in any of patent claims 1-5, characterized in that the means (28, 29) consists of a chosen degree of roughness on the lateral surface or surfaces (3-8) concerned.

7. The arrangement as claimed in any of patent claims 1-6, characterized in that the interaction between the first and second lateral surfaces (14, 15) is designed to take place only when a degree of loading or degree of turning of the implant (12) and the tool (11) is reached.

8. The arrangement as claimed in any of patent claims 1-7, characterized in that the materials, at least in those parts of the implant (12) and tool (11) which interact during turning, are designed themselves to bring about greater friction.

9. The arrangement as claimed in any of patent claims 1-8, characterized in that the means (16) consists of or comprises metal nitride and/or metal carbide, e.g. titanium nitride or chromium carbide, applied to the surface or surfaces concerned.

10. The arrangement as claimed in any of patent claims 1-9, characterized in that the means (16) consists of or comprises diamond particles applied to the surface or surfaces concerned.

11. The arrangement as claimed in patent claim 9, characterized in that the stress in or on said portion is reduced by up to ca. 30% when titanium nitride is applied.

12. The arrangement as claimed in patent claim 1b, characterized in that the part (control part) (18) of the tool extending beyond the first surfaces is ca. 3 to 5 times longer than the longitudinal extents of the first surfaces.

13. The arrangement as claimed in patent claim 1b or 12, characterized in that the part (18) of the tool (11) extending beyond the first surfaces has first and second longitudinally extending parts (18a, 18b) with different diameters, the first longitudinally extending part situated next to the first lateral surfaces having the greater diameter.

14. The arrangement as claimed in patent claim 13, characterized in that a bending moment which occurs in the event of skewing, or a tendency toward skewing, between the implant and the tool places a load on, inter alia, surface areas of the implant (12) which are located at the first longitudinal extending part's area nearest to the first lateral surfaces, and the outermost part of the second longitudinally extending part, which bending moment (M, M') is prevented from acting on the portion with the internal socket by virtue of the fact that a slight clearance (23) is initially present between the first and second lateral surfaces.

15. The arrangement as claimed in patent claim 14, characterized in that threads (21'), and the parts of the implant which bear these threads, also take up said bending moments.